

#### ABSTRACT OF THE DISCLOSURE

A method for determining a load exerted on a tyre, fitted on a vehicle, during running of the vehicle on a rolling surface, is disclosed. The method includes acquiring a first signal comprising a first signal portion representative of a radial deformation; measuring an amplitude of the radial deformation in the first signal portion; estimating a rotation speed of the tyre corresponding to the radial deformation; estimating an inflation pressure of the tyre corresponding to the radial deformation; and deriving the load exerted on the tyre from the amplitude, the rotation speed, and the inflation pressure. The first signal portion is representative of the radial deformation to which a first tread area portion of the tyre is subjected during passage of the first tread area portion through a contact region between the tyre and the rolling surface. A system for determining the load exerted on the tyre is also disclosed.